

REMARKS / DISCUSSION OF ISSUES

Claims 2-5 and 14-26 are pending. Claims 14, 15, 18 and 23 are independent. Claims 14-26 are new. No new subject matter is added.

Objection to the Drawings

The objection to the drawings has been considered. The subject matter in question has been deleted from the claims and renders this objection moot. Cancellation of the subject matter relating to the fourth and fifth regions is not a disclaimer of this subject matter; and is cancelled without prejudice.

Objection to the Specification

The objection to the specification has been rendered moot by the correction of the misspelled word in the paragraph on page 7.

Objection to the Claims

The objection to claim 8 is moot in view of the cancellation of this claim.

Rejections under 35 U.S.C. § 102

Claims 1-4 and 6 were rejected under 35 U.S.C. § 102(b) as being unpatentable over *Ohta, et al.* (U.S. Patent 5,489,477). The pending claims are patentable over the applied art for at least the reasons set forth below.

At the outset Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re*

Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. See, e.g., *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. See, e.g., *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Claim 1 is cancelled. Applicants respectfully submit that independent claims 14, 15, 18 and 23 are patentable over the applied art.

i. Claims 14 and 15

Claim 14 is drawn to a nanowire, and features:

“...a first region and a third region each having having quantization effects; and a second region having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions, wherein the nanowire further comprises one or more of: SiC, Si, SiGe, GaAs, InP and InAsP.”

Claim 15 is drawn to an electronic device and includes the noted features.

Ohta, et al. discloses a high molecular weight carbon material in a cylindrical tube bonded through soccer ball-like spherical high molecular weight carbon material. Applicants note that the applied art does not disclose at least the nanowire comprising one or more of the materials featured in claims 14 and 15.

Because the applied art fails to disclose at least one feature of each of claims 14 and 15, a prima facie case of anticipation cannot be made based on *Ohta, et al.* Therefore claims 14 and 15 are patentable over the applied art. Moreover, claims 2-5 and 15-17, which depend from claims 14 and 15, respectively, are also patentable for at least the same reasons.

ii. Claim 18

Claim 14 is drawn to a nanowire, and features:

“...a second region having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions, wherein the nanowire further comprises more than one semiconductor material.”

As noted above, *Ohta, et al.* discloses a high molecular weight carbon material in a cylindrical tube bonded through soccer ball-like spherical high molecular weight carbon material. While *Ohta, et al.* does disclose C56-A(4,0) obtained from C60, Applicants respectfully submit that the applied art does not disclose at least the nanowire comprising more than one semiconductor material as featured in claim 18.

Because the applied art fails to disclose at least one feature of claim 18, a prima facie case of anticipation cannot be made based on *Ohta, et al.* Therefore claim 18 is patentable over the applied art. Moreover, claims 19-22, which depend from claim 18 are also patentable for at least the same reasons.

iii. Claim 23

Claim 23 is drawn to a nanowire, and features:

*“a first region and a third region each comprising a metallic material and having quantization effects; and
a second region comprising a semiconducting material and having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions.”*

As noted above, *Ohta, et al.* discloses a high molecular weight carbon material in a cylindrical tube bonded through soccer ball-like spherical high molecular weight carbon material. While *Ohta, et al.* does disclose C56-A(4,0) obtained from C60, Applicants respectfully submit that the applied art does not disclose at least the nanowire with first and third regions comprising a metallic material, or with a second region comprising a semiconductor material as featured in claim 23.

Because the applied art fails to disclose at least one feature of claim 23, a prima facie case of anticipation cannot be made based on *Ohta, et al.* Therefore claim 23 is patentable over the applied art. Moreover, claims 24-26, which depend from claim 23 are also patentable for at least the same reasons.

Rejections under 35 U.S.C. § 103

The rejection of claims 5, 7 and 13 under this section of the Code has been considered. While these rejections are moot as to claims 7 and 13, to the extent that the Examiner considers these rejections applicable to the pending claims, Applicants respectfully submit that the subject matter of dependent claims 5, 7 and 13 define over the reference to *Ohta, et al.* for at least the reasons set forth above.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Phillips Electronics North America Corp.

A handwritten signature in black ink, appearing to read 'William S. Francos', is written above a horizontal line.

by: William S. Francos (Reg. No. 38,456)

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Valentine Francos & Whitt, PLLC
Two Meridian Blvd.
Wyomissing, PA 19610
(610) 375-3513 (v)
(610) 375-3277 (f)